

ABSTRACT

The invention concerns a transmission method for transmitting a plurality of symbols from a base station of a MC-CDMA telecommunication system to a plurality (K) of users, each symbol (d_k) to be transmitted to a user being spread with a coding sequence ($c_k(\ell), c_k^{ext}(\ell)$) over a plurality (L) of carriers (ℓ) to produce a plurality of corresponding frequency component, said base station being provided with a plurality (M) of antenna elements. According to the invention, each frequency component produced by a symbol of a user (k) is weighted by a plurality (M) of weighting complex coefficients ($w_k^*(\ell, m), m=1, \dots, M$) to obtain a plurality (LM) of weighted frequency components ($z_k^m(\ell)$), each weighting coefficient being relative to a user (k), a carrier (ℓ) and an antenna element (m) and said plurality of weighting coefficients being determined from estimates of the channel coefficients ($h_k(\ell, m)$) of the downlink transmission channels between each antenna element and each user for each carrier frequency.